REDISCOVERY OF THE NARROW-BORDERED BEE HAWK-MOTH (*HEMARIS TITYUS*) (L.) (LEP.: SPHINGIDAE) IN BRECKLAND

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ON 21 MAY 1999, at around 13.00 hours, AJM and MA were birding/insecting in an area of the Brecks. The first Marbled Clover *Heliothis viriplaca* (Hufn.) of the year had been recorded, as well as several Mother Shipton *Callistege mi* (Clerck). Whilst returning to the car, an odd-looking bee flew past which on further observation soon resolved itself as being a bee hawk-moth (*Hemaris* sp.). The moth was frequenting an extensive patch (approximately 30 x 20 metres at its widest) of ground ivy *Glechoma hederacea* in dappled shade on the edge of some open woodland (an area which appeared to have been recently cleared). It was soon joined by at least one more bee hawk-moth.

It was immediately assumed that these were Broad-bordered Bee Hawk-moths *H. fuciformis* (L.), a species which occurs widely (although not commonly), in the Brecks. We netted one of the moths and took it back to The Nunnery to photograph. However, upon checking the few moth books we had in the BTO library, it soon became apparent that the moth we had netted looked far more like a Narrow-bordered Bee Hawk-moth *H. tityus*. The relatively narrow dark borders to the wings (particularly the hindwing), were apparent, but this obviously seemed to be a feature which was subject to wear and thus not completely reliable on a single individual. However, of far more interest was a feature mentioned in Pittaway (1993) which was that *H. fuciformis* has a forewing discal cell that is longitudinally dissected by a fold whereas *H. tityus* has an undivided forewing discal cell. This separating feature is clearly visible in the plates of that book, as well as in Skinner (1984), Brooks (1991) and the painted plates in Chinery (1991). The moth we had in front of us had an undivided discal cell and was therefore clearly *H. tityus*. It seemed likely that this feature should be 100% reliable. In addition, the dark band on the abdomen appeared more diffuse than on plates of *H. fuciformis*.

After cooling the moth in the fridge, AJM took a series of photographs in the office. AJM returned to the site at around 16.00 hours that afternoon and saw two more bee hawk-moths around the same patch of ground ivy, although neither could be netted. The sun soon went in and the hawk-moths disappeared. Further sightings were made at the site the following week, with one at noon on 24 May, at least three (and probably five) on 25 May and one in a spider's web (and released!) on 26 May. Photographs in the field were taken by Richard Bashford. All of the bee hawk-moths caught and released showed the same distinguishing features of *H. tityus*, i.e. the undivided discal cell in the forewing, narrow dark borders to the wings and a diffuse abdominal band.

We also notified the Norfolk and Suffolk Moth Groups. Tony Prichard of the SMG immediately phoned back and confirmed that this was an extremely rare insect in eastern England. He did (quite sensibly) express the view that it was more likely

to be *H. fuciformis*, given the relative abundance of each species in the Brecks, and asked us to keep the specimen. Despite our certainty that the moth was *H. tityus*, inspection by several members of the Suffolk Moth Group proved inconclusive.

AJM spoke soon after to Paul Waring who expressed great interest and asked for larval searches to be carried out on devil's-bit scabious *Succisa pratensis* at the site. Since the scabious was not in flower, and we had fairly modest botanical abilities, this proved difficult and many fruitless hours were spent searching through the vegetation. The searches were initially unsuccessful, partly due to uncertainty about which was the correct plant and also probably due to searching a little too early. However, Tony Prichard visited the site on 19 June and after much searching found a single small larva of *H. tityus*, about 500 metres away from where the adult moths had been seen. Following this success, AJM, MA and Richard Bashford went to the same area at lunchtime on 21 June and located two small larvae of *H. tityus* on devil's-bit scabious, which were retained to rear in captivity. MA, PW and TP also spent over two hours searching on 25 June and located just one *H. tityus* larva. Photographic records and habitat details were taken by PW. One of the retained larvae didn't survive for long, but the other did well and devoured large amounts of devil's-bit scabious that were provided, before pupating on 14 July 1999.

The site will be monitored again during spring 2000 to try to establish the local abundance and range of the species. Although we would like other observers to be able to come and enjoy watching the moths, we feel it is prudent for the moment at least that the location of the site is not published, given the apparently exceedingly rare nature of this species in the east and the greater risk of over-collecting for a day-flying moth which congregates at discreet nectaring sites. We would urge any readers who do become aware of the site to keep it quiet for the time being, until the population can be properly assessed.

However, it seems possible that the species may well be present at a low level in other parts of the Brecks and we would urge other observers to try to get a good look at any other bee hawk-moths in the region. In particular, the value of the discal cell feature seems not to have been emphasised enough in the literature and, if the moth is netted, is relatively easy to observe. It should therefore be straightforward to identify the moth with confidence.

References

Brooks, M., 1991. *A Complete Guide to British Moths*. Jonathan Cape, London.

Chinery, M., 1991. *Collins Guide to the Insects of Britain and Western Europe*. Collins, London.

Pittaway, A. R., 1993. *The Hawkmoths of the Western Palaearctic*. Harley Books, Colchester.

Skinner, B., 1984. *Colour Identification Guide to Moths of the British Isles*. Viking, London.

Reminder: The Orange Upperwing *Jodia croceago* (D. & S.) survey

The Orange Upperwing survey – autumn 1999/spring 2000 was detailed in *Ent. Rec.* **111**: 244-247. Please remember to forward any data referring to searches for this species (including any negative results), to Adrian Spalding at Tremayne Farm Cottage, Tremayne, Praze-an-Beeble, Cambourne, Cornwall TR14 9PH.